

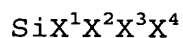
What is claimed is:

1. A composition for preparing organic insulators comprising (i) at least one organic-inorganic hybrid material; (ii) at least one organometallic compound
5 and/or organic polymer; (iii) and at least one solvent for dissolving the components (i) and (ii).

2. The composition according to claim 1, wherein the organic-inorganic hybrid material is an organosilane
10 compound or a polymer formed by hydrolyzing and polycondensing the organosilane compound in the presence of an acid or alkaline catalyst.

3. The composition according to claim 2, wherein the
15 organosilane compound is selected from the group consisting of compounds represented by Formulas 1 to 3:

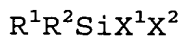
Formula 1



20 **Formula 2**



Formula 3



wherein, R^1 and R^2 are each independently hydrogen atom, C_{1-10} alkyl group, C_{3-10} cycloalkyl group, C_{6-15} aryl group, C_{2-30} acryl group or epoxy group-containing alkyl, cycloalkyl or aryl group; and

5 X^1 , X^2 , X^3 and X^4 are each independently halogen atom, or C_{1-5} alkoxy group.

4. The composition according to claim 1, wherein the organometallic compound is selected from the group
10 consisting of titanium based compounds, zirconium based compounds, hafnium based compound, and aluminium based compound.

5. The composition according to claim 4, wherein the
15 organometallic compound is selected from a group consisting of titanium(IV) n-butoxide, titanium(IV) t-butoxide, titanium(IV) ethoxide, titanium(IV) 2-ethylhexoxide, titanium(IV) iso-propoxide, titanium(IV) (di-iso-propoxide) bis(acetylacetonate), titanium(IV)
20 oxide bis(acetylacetonate), trichlorotris(tetrahydrofuran)titanium(III), tris(2,2,6,6-tetramethyl-3,5-heptanedionato)titanium(III), (trimethyl) pentamethyl cyclopentadienyl titanium(IV),

pentamethylcyclopentadienyltitanium trichloride(IV),
 pentamethylcyclo-pentadienyltitanium trimethoxide(IV),
 tetrachlorobis(cyclohexylmercapto) titanium(IV),
 tetrachlorobis(tetrahydrofuran)titanium(IV),
 5 tetrachlorodiaminetitanium(IV),
 tetrakis(diethylamino)titanium(IV)],
 tetrakis(dimethylamino)titanium(IV), bis(t-
 butylcyclopentadienyl)titanium dichloride,
 bis(cyclopentadienyl) dicarbonyl titanium(II),
 10 bis(cyclopentadienyl)titanium dichloride,
 bis(ethylcyclopentadienyl)titanium dichloride,
 bis(pentamethylcyclopentadienyl)titanium dichloride,
 bis(iso-propylcyclopentadienyl)titanium dichloride],
 tris(2,2,6,6-tetramethyl-3,5-
 15 heptanedionato)oxotitanium(IV), chlorotitanium
 triisopropoxide, cyclopentadienyltitanium trichloride],
 dichlorobis(2,2,6,6-tetramethyl-3,5-
 heptanedionato)titanium(IV), dimethylbis(t-
 butylcyclopentadienyl)titanium(IV), di(iso-
 20 propoxide)bis(2,2,6,6-tetramethyl-3,5-
 heptanedionato)titanium(IV), zirconium(IV) n-butoxide,
 zirconium(IV) t-butoxide, zirconium(IV) ethoxide,
 zirconium(IV) iso-propoxide, zirconium(IV) n-propoxide,
 zirconium(IV) acetylacetonate, zirconium(IV)

hexafluoroacetylacetonate, zirconium(IV)

trifluoroacetylacetonate, tetrakis(diethylamino)zirconium,

tetrakis(dimethylamino)zirconium, tetrakis(2,2,6,6-

tetramethyl-3,5-heptanedionato)zirconium(IV),

5 zirconium(IV) sulfate tetrahydrate, hafnium(IV) n-

butoxide, hafnium(IV) t-butoxide, hafnium(IV) ethoxide,

hafnium(IV) iso-propoxide, hafnium(IV) iso-propoxide

monoisopropylate, hafnium(IV) acetylacetonate,

tetrakis(dimethylamino)hafnium, aluminium n-butoxide,

10 aluminium t-butoxide, aluminium s-butoxide, aluminium

ethoxide, aluminium iso-propoxide, aluminium

acetylacetonate, aluminium hexafluoroacetylacetonate,

aluminium trifluoroacetylacetonate and tris(2,2,6,6-

tetramethyl-3,5-heptanedionato)aluminium.

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6. The composition according to claim 1, wherein the ratio of the organometallic compound is 1-300 parts by weight based on 100 parts by weight of the organic-inorganic hybrid material.

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7. The composition according to claim 1, wherein the organic polymer is selected from a group consisting of polyesters, polycarbonates, polyvinylalcohols, polyvinylbutyrals, polyacetals, polyarylates, polyamides,

polyamidimides, polyetherimides, polyphenylenethers,
polyphenylenesulfides, polyethersulfones,
polyetherketones, polyphthalamides, polyethernitriles,
polyethersulfones, polybenzimidazoles, polycarbodiimides,
5 polysiloxanes, polymethylmethacrylates,
polymethacrylamides, nitrile rubbers, acryl rubbers,
polyethylenetetrafluorides, epoxy resins, phenol resins,
melamine resins, urea resins, polybutenes, polypentenenes,
poly(ethylene-co-propylene), poly(ethylene-co-
10 butenediene), polybutadienes, polyisoprenes,
poly(ethylene-co-propylene diene), butyl rubbers,
polymethylpentenes, polystyrenes, poly(styrene-co-
butadiene), hydrogenated poly(styrene-co-butadiene),
hydrogenated polyisoprenes, and hydrogenated
15 polybutadienes.

8. The composition according to claim 1, wherein the
ratio of the organic polymer is 0.01-50 parts by weight
based on 100 parts by weight parts of the organic-
20 inorganic hybrid material.

9. The composition according to claim 1, wherein the
solvent is selected from a group consisting of aliphatic
hydrocarbon; aromatic hydrocarbon solvents; ketone-based

solvents; ether-based solvents; acetate-based solvents; alcohol-based solvents; amide-based solvents; silicon-based solvents; and a mixture thereof.

5 10. The composition according to claim 1, wherein the content of the organic solvent in the composition is 20-99.9 wt%.

11. A method of preparing an organic insulator,
10 which comprises:
 coating a substrate with the composition according to claim 1 to form an insulating film; and
 curing the insulating film.

15 12. The method according to claim 11, wherein the insulating film is coated by spin-coating, dip-coating, printing, spray-coating, or roll-coating.

13. The method according to claim 11, wherein the
20 insulating film is cured at 70-150°C for 0.5-2 hrs.

14. An organic insulator prepared by the method according to claim 11.

15. An organic thin film transistor comprising a substrate; a gate electrode; an insulating film; an organic active layer; and source-drain electrodes, wherein the insulating film is the organic insulator according to claim

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